

## Upon the Aphis-Feeding Species of Aphelinus.

By L. O. HOWARD.

Down to a comparatively recent date, the only Chalcidoid of the subfamily Aphelininae known to parasitize Aphididae was *Aphelinus mali* Hald., described by Haldeman in the Proceedings of the Boston Society of Natural History, Volume VI, 1860, pages 402-403, under the name of *Eriophilus mali*. It was reared by Haldeman from *Schizoneura (Eriosoma) lanigera*, and is referred to under this name by Comstock in his Report as Entomologist for the United States Department of Agriculture for 1879, and is figured at Plate VI, figure 6, from specimens reared by the writer from *Schizoneura lanigera* occurring upon apple upon the grounds of the Department of Agriculture at Washington. The species had apparently also been reared from the same host by Walsh in Illinois and by Riley in Missouri. Since then it has been found to be a rather general parasite of Aphididae, and the following records occur in the writer's Revision of the Aphelininae of North America (Technical Series No. 1, Division of Entomology, U. S. Department of Agriculture, 1895) where it was placed in its proper genus, *Aphelinus*: by F. M. Webster from *Glyphina eragrostidis* at Lafayette, Indiana, September 6 to 10, 1885; by the same observer from *Aphis brassicae* on turnip; by T. A. Williams, at Lincoln, Nebr., from *Pemphigus fraxinifolii*, June 10, 1890; by the same observer from *Aphis monardae* at Ashland, Nebraska, May 24th, 1890, and by W. H. Ashmead from *Siphonophora rosae* at Jacksonville, Fla., in April, 1881 (described by Doctor Ashmead as *Blastothrix rosae*, unfortunately placing it in the wrong family). Still later and as yet unrecorded rearings of this interesting species have been made by Zehntner from *Aphis sacchari* at Pasoroean, Java, and in the insectary at Washington by Pergande from *Tetraneura colophoidea*, November 7, 1897, from Cabin Johns Bridge, Maryland. The species seems, therefore, to be not only a very general parasite of Aphididae, but also seems to be of wide distribution.

*Aphelinus mali* was at once set off from the other species

of *Aphelinus*, with one exception, by the possession of hairy eyes, and this character, taken in connection with its different host relation, has suggested the advisability of erecting a new genus to contain it and the allied forms that have since been discovered. It also differs in its black color from the Coccid-inhabiting species. A single individual of an *Aphelinus* having hairy eyes and being black except for the head and extremities of the abdomen was collected by Koebele in the Santa Cruz Mountains, California, and has been described by the author (Technical Series No. 1) as *A. flaviceps*, the statement being made at the same time that the species would probably ultimately be found to be parasitic upon some Aphidid, this conclusion being reached from the prevalence of the dark color and from the possession of hairy eyes. *A. flaviceps*, however, has never since been reared, and the accuracy of this theoretical suggestion has not been proved or disproved. Comparatively recently however two additional species have been reared from Aphididae, which are also characterized by the possession of a preponderance of black in the coloration and by eyes that are hairy. These species, *A. semiflavus* n. sp. and *A. nigrinus* n. sp. are described below.

TABLE SEPARATING THE APHELINUS PARASITES  
OF APHIDIDAE.

FEMALES.

Eyes obviously hairy.

Head black, base of abdomen yellow, hind femora pallid . **mali** Hald.

Head yellow, abdomen yellow at base and tip, all legs orange-yellow . . . . . **flaviceps** How.

Head and abdomen entirely black . . . . . **nigrinus** n. sp.

Eyes obscurely hairy.

Abdomen light yellowish, darker at margins, all legs yellowish or slightly dusky . . . . . **semiflavus** n. sp.

MALES.

Third funicle joint twice as long as pedicel and six times as long as broad; club one-fourth longer than third funicle joint

**semiflavus** n. sp.

Third funicle joint very slightly longer than pedicel, and slightly more than three times as long as broad; club rather more than twice as long as third funicle joint . . . . . **mali** Hald.

**Aphelinus semiflavus** n. sp.

*Female*.—Length 1.08 mm.; expanse 1.87 mm.; greatest width of fore wing 0.3 mm. Antennæ short, excluding scape about the length of face; pedicel long, more than three times as long as wide; funicle joints 1 and 2 subequal in length and width and each slightly less than one-third length of pedicel; joint 3 two-thirds length of pedicel and about as wide as its tip; club slightly swollen, ellipsoidal, and about twice the length of pedicel. Eyes faintly hairy. General color black; thorax smooth, shining, scape and pedicel dusky, flagellum pallid, club becoming somewhat dusky at tip; front and middle femora and all tibiæ somewhat dusky; hind femora straw yellow. Abdomen light yellow shaded around margin with brownish. Wings rather short, otherwise normal.

*Male*.—Length 0.85 mm.; expanse 1.58 mm.; greatest width of fore wing 0.204 mm. Differs from female in having antennæ nearly uniform brown, scape slightly darker, and in the proportions of third funicle joint and club. Third joint cylindrical, twice as long as pedicel and six times as long as broad; club one-quarter longer than third funicle joint, elongate ovate in shape.

Described from 14 ♂ ♀ specimens reared by C. P. Gillette, Fort Collins, Colo., July 15, 19, 1908, from *Myzus persicae*, and reared at Washington from the same host sent in by Professor Gillette. The parasitized host turns black.

U. S. N. M. type No. 12031.

**Aphelinus nigrifus** n. sp.

*Female*.—Length, 0.68 mm.; expanse, 1.7 mm.; greatest width of fore wing, 0.26 mm. Flagellum of antennæ short, not as long as face; pedicel obconical, about twice as long as wide; first and second funicle joints very short, together less than half as long as pedicel; third funicle joint about as long as thick, and about as long as, or slightly shorter than pedicel; club about three times as long as third funicle joint, about twice as long as broad, obliquely truncate at tip. Body uniformly black, shining. Mesoscutum, including parapsides, with faint, sparse, small, irregular punctures. All legs and antennæ pale yellow except for a duskiess of the hind tibiæ and the tip of the antennal club.

*Male*.—Unknown.

Described from six ♀ specimens reared by G. G. Ainslie, Bureau of Entomology, Spartanburg, S. C., from *Toxoptera graminum*.

U. S. N. M. type No. 12032.